

## **EXHIBIT 2-B**



5 HARRIS COURT, BLDG. G  
POST OFFICE BOX 85  
MONTEREY, CA 93942-0085 • (831) 658-5600  
FAX (831) 644-9560 • <http://www.mpwmd.dst.ca.us>

### **MPWMD TECHNICAL MEMORANDUM 2020-01**

**Date:** July 1, 2020  
**To:** Dave Stoldt, General Manager  
**From:** Jonathan Lear, PG, CHg, Water Resources Division Manager  
Thomas Christensen, PG, Environmental Resources Division Manager  
**Subject:** Steps toward licensing of Carmel River water rights Permits 20808A and 20808C and making a petition for extension of time to show beneficial use for 20808B to the State Water Resources Control Board

#### **BACKGROUND**

MPWMD holds a suite of water rights that originated with the proposed New Los Padres Dam on the Carmel River. Water rights (WR) 20808 A and C are used for ASR diversions to injection and are due to be licensed. "Licensing" means a permanent and formal water right issued by the State Water Resources Control Board (SWRCB). WR-20808 B is a right to impound water behind New Los Padres Dam, which has never been exercised. A condition for maintaining a water right permit from the SWRCB is that the permittee (the District) must demonstrate that a project is diligently pursued. For a permit time extension, the SWRCB requires that a permittee describe the reason(s) for a delay in the development of a project. For a time extension, the Board must make these findings:

- Due diligence has been exercised by the petitioner,
- Failure to comply with previous time requirements has been occasioned by obstacles which could not reasonably be avoided,
- Satisfactory progress will be made if the time extension is granted; and that
- Approval of the petition is in the public interest.

Concerning WR permit 20808B, it is difficult to show diligence in pursuing a new large dam on the Carmel River after 2003; however, the District could cite evidence that a new large dam would not be permitted (NMFS letters circa 2008, MPWMD resolution) and show some progress toward planning for smaller projects. There is also the potential to address the condition for maintaining a water rights permit from the SWRCB

## EXHIBIT 2-B

MPWMD Technical Memorandum 2020-01

July 1, 2020

Page 2

because the permittee has demonstrated that a project is diligently pursued. For a permit time extension, the SWRCB requires that a permittee to describe the reason(s) for a delay in the development of a project.

For any time extension, the District should consider what a reasonable length of time for which to petition would be. Given the difficulty of developing projects, a 40-year time extension should not be out of the question.

For a time extension, the Board should make findings that the MPWMD Board considered these items on April 20<sup>th</sup> and provided the following direction:

- For WR-20808 B, MPWMD Board directed District Staff to file a Petition for Extension of Time to show beneficial use and withdraw the Petition for Extension of Time to construct New Los Padres Dam. Once the District has completed a feasibility analysis and identified viable project(s), file a Petition for Change to modify the water right to apply to the new application(s).
- For WR-20808 A and C, MPWMD Board directed District Staff to initiate the licensing process and provide an analysis that could allow SWRCB Staff to make a finding for more water than the highest annual volume based on a streamflow analysis and CPUC testimony. At the time that the draft license volumes are available, bring them to the Board for further direction.

### **Plan of Action**

- 1) Develop a schedule incorporating the tasks necessary to submit petitions to the SWRCB for 20808b and enter the Licensing process for 20808 A and C;
- 2) Summarize efforts to date toward perfecting ASR rights and continue to show progress toward using rights under permit 20808B;
- 3) Develop descriptions of additional projects that would use rights under 20808B;
- 4) Submit Petition for extension of time with plan for pursuing project portfolio; and
- 5) Contract with an Engineering firm to evaluate feasibility and obtain project cost estimates and generate dollar per acre foot for projects.

### **Projects Overview**

Thomas Christensen and Jon Lear both went through paper files maintained by Andy Bell, Larry Hampson, Joe Oliver, and Darby Fuerst to identify projects that had been investigated in the past involving off-channel surface and sub-surface storage. A suite of projects were identified that are potentially feasible that could use water rights from WR-20808 B through a change of use petition. Tables and Plates for these projects are attached to this memo. The workflow proposed to investigate these projects would allow for selection of one project or could be used to construct a suite of projects to put together a water portfolio. A table showing projects and yields is included with this memo.

## EXHIBIT 2-B

MPWMD Technical Memorandum 2020-01

July 1, 2020

Page 3

1. **Turlacitos Off-Channel Storage** – This project would divert water from the Carmel River at the confluence of Turlacitos Creek at a property owned by California American Water Company (Cal-Am.) The diversion would be from a Ranney Collector or intake screens like the ones used at the Sleepy Hollow Fish Rearing Facility. Water would be diverted and impounded behind a dam in the Chupines Creek Watershed through a 24” raw water pipeline using booster stations. At 1,400 feet elevation at top of dam, there is 15,500 AF of storage available. When the water is needed, it can be gravity fed back to a surface water treatment plant and then delivered to the Cal-Am 36” main in Carmel Valley Road. Project yield is limited by surface water diversion of 8,000 gallons per minute (gpm) or 17.9 cfs. Average yield for this project would be 2,350 AF/year diverted from the Carmel River and 730 AF from the Chupines Drainage. Extremely wet yield would be 4,930 AF diverted from the Carmel River and 1,450 from Chupines for a total of 6,380. The available storage of 15,500 AF would allow for year over year storage operational flexibility.
  
2. **Seaside Well Field Expansion and Surface Diversion** – This project would utilize the same surface water diversion as the Turlacitos project, except instead of impounding the diverted water in a surface reservoir it would be treated, introduced to the Cal-Am system, and brought to Seaside for injection in an expanded ASR well field. If a diversion rate of 8,000 gpm is sustainable, the project would yield 2,350 AF per year. The Seaside ASR well field would need to be expanded by up to 6 wells. In 2007 a study identified the “Sweet Zone” for ASR operations in the Seaside Basin and located a number of sites for ASR well couplets. We have included those plates in the appendix to this Memorandum. Three of these locations would need to be developed to support this project.
  
3. **Carmel Valley and Seaside Well Field Expansion** – There are seven additional well sites that can accommodate replacement wells to utilize permits WR-20808 A and C. This project would construct these wells and expand the Carmel Valley production capacity by 7,000 gpm based on estimates of how current wells perform by location in the CVAA. The Begonia Iron Removal Plant (BIRP) would need to be upgraded to handle the higher through-put. Five new ASR wells would need to be constructed in the Seaside Basin to handle the increased injection. This project would yield an average of 2,060 AF per year.
  
4. **Turlacitos ASR** – If a surface water impoundment is not feasible in the Chupines Basin, there is a sandstone unit bound by faults that could possibly support an ASR program. The District is currently investigating the high-level feasibility of this program with Right on Q, INC with the use of the Carmel River Watershed Hydrologic Model as the hydrogeologic framework model. The District is evaluating if water is injected into this sandstone, will it be recoverable? Based on available well capacity data for this geologic unit, an initial estimate for injection and production capacities are 500 and 1,000 gpm respectively. The lower capacities of these wells than ASR wells in the Seaside Basin will require more wells to achieve the same injection volume. At a 500 gpm injection rate, a 12 well injection field

## EXHIBIT 2-B

MPWMD Technical Memorandum 2020-01

July 1, 2020

Page 4

could support 6,000 gpm diversion rate. This would place the average annual yield for this project at 1,770 AF per year. It should be noted that while Seaside injection wells have higher capacity and require fewer wells for the same volume and a well field with a larger number of wells, they have a more robust firm capacity and lose significantly less injection capacity when a single well is non-operational. Wells installed into the sandstone would not need to be as deep or require as large casings as wells installed into the Seaside Basin. A cost comparison will be performed into the economics of the different ASR well fields.

It is envisioned that MPWMD technical staff will engage in feasibility and cost studies of these projects using consulting engineering services with the goal of obtaining cost per acre foot numbers. This plan of action, project analysis, and testimony from the General Rate Case will be used when filing the petition for extension of time to show beneficial use.

### **Permit Time Extension – Instructions from SWRCB (from website)**

This section describes the Water Rights time extension petition process. Post-1914 appropriative right permits contain deadlines for beginning construction work, completion of construction work, and application of water to beneficial use. Unlike riparian rights, permits to appropriate water are limited to the maximum amount that is needed by the proposed project (or "beneficial use[s]"), for as long a time as the project is deemed reasonable and diligently pursued. If the right holder is not able to complete the project by the timeline specified in the permit, the party may need to file a time extension petition to ask for additional time.

To change their water right, the petitioner must follow these steps:

**Submit a Petition.** The process is initiated when a time extension petition is filed by right holder. This petition describes how long of a time extension the party is seeking and the reason for the delay in the development of the project.

**Review of the Petition Form.** The Board notifies the petitioner shortly after receipt (typically within 30 days) if the petition is incomplete.

**Environmental Review.** Consideration of environmental effects is required by the California Environmental Quality Act before a change petition can be issued. The Board examines the proposed project's potential environmental impacts and determines whether mitigation measures will be needed. In addition to any obligation the State Water Board may have under the California Environmental Quality Act, the State Water Board has an independent obligation to consider the effect of the proposed project on public trust resources and to protect those resources where feasible.

**Public Notice and Protest Resolution.** If necessary, the State Water Board will require the petitioner to publish notice of the right holder's request for an extension of time and invite comment. The State Water Board will consider any protests that have been filed. If both parties can agree to mutually acceptable conditions, the protest is resolved at this point in the process. In



## **EXHIBIT 2-B**

MPWMD Technical Memorandum 2020-01

July 1, 2020

Page 5

the event it is not resolved for small projects, the issue may be addressed by the Division of Water Rights through a field investigation. For appeals from the report and for large projects, a formal hearing is held before one or more members of the State Water Board. The State Water Board's decision is based upon the record produced during the hearing.

**Hydrologic Analysis.** Before granting a change petition, the State Board evaluates if the change could result in a decrease in stream flow. If analysis is needed, it is typically performed by an engineering consultant retained by the applicant. Occasionally, the applicant or Board staff may perform the analysis.

**Compliance with Applicable Policies.** Projects located in certain geographic areas are required to comply with applicable State Board Policies relevant to processing of a water right change petition. The [Policy for Maintaining Instream Flows in Northern California Coastal Streams](#) applies to projects located in Marin, Sonoma, and portions of Napa, Mendocino, and Humboldt Counties. Petitions for projects in this area may be subject to special requirements including hydrologic analysis and when adding an onstream dam.

**Revised Permit Issuance.** Three initial Board findings are required before a petition for extension of time can be approved:

- Due diligence has been exercised by the petitioner,
- Failure to comply with previous time requirements has been occasioned by obstacles which could not reasonably be avoided,
- Satisfactory progress will be made if the time extension is granted; and that
- Approval of the petition is in the public interest. If the Board determines otherwise, conditions may be imposed to ensure the criteria are satisfied or the petition may be denied.

Currently, the Water Rights Petition Program is estimated to require five to seven years for regular priority projects from the time a petition is received to the time that a decision is rendered. Petitions may be considered for higher priority depending on their consistency with these [criteria](#).

Regulatory Process Flow charts from the SWRCB are attached to this memo so that the team can stay on the same page as MPWMD moves forward with licensing and filing petitions with the Board.

**EXHIBIT 2-B**

Tables and Plates

## EXHIBIT 2-B

	Operational Days		Diversion Rate (gpm)															
	20808 A	20808 C	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Critically Dry	4	3	7	13	20	26	33	40	46	53	59	66	73	79	86	92	99	106
Dry	18	14	31	62	92	123	154	185	216	246	277	308	339	370	400	431	462	493
Below Normal	41	33	73	145	218	290	363	436	508	581	653	726	799	871	944	1016	1089	1162
Normal	69	62	136	273	409	546	682	818	955	1091	1228	1364	1500	1637	1773	1910	2046	2182
Above Normal	94	102	224	449	673	898	1122	1346	1571	1795	2020	2244	2468	2693	2917	3142	3366	3590
Wet	115	114	251	502	752	1003	1254	1505	1756	2006	2257	2508	2759	3010	3260	3511	3762	4013
Extremely Wet	139	140	308	616	924	1232	1540	1848	2156	2464	2772	3080	3388	3696	4004	4312	4620	4928
Average			147	294	441	588	735	883	1030	1177	1324	1471	1618	1765	1912	2059	2206	2353

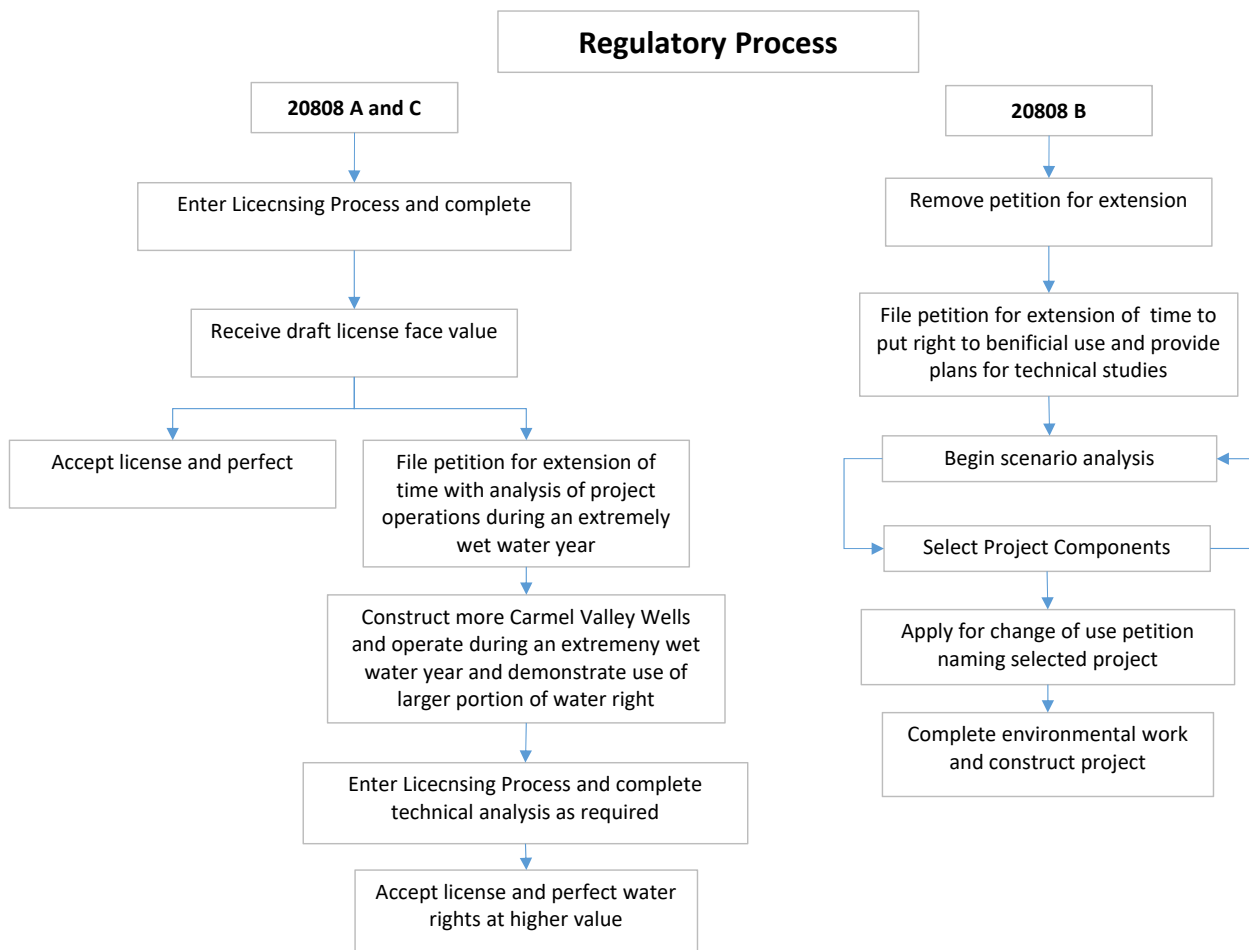
\*Rounded Values\*

	Operational Days		Diversion Rate (gpm)															
	20808 A	20808 C	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Critically Dry	4	3	10	10	20	30	30	40	50	50	60	70	70	80	90	90	100	110
Dry	18	14	30	60	90	120	150	180	220	250	280	310	340	370	400	430	460	490
Below Normal	41	33	70	150	220	290	360	440	510	580	650	730	800	870	940	1020	1090	1160
Normal	69	62	140	270	410	550	680	820	950	1090	1230	1360	1500	1640	1770	1910	2050	2180
Above Normal	94	102	220	450	670	900	1120	1350	1570	1800	2020	2240	2470	2690	2920	3140	3370	3590
Wet	115	114	250	500	750	1000	1250	1500	1760	2010	2260	2510	2760	3010	3260	3510	3760	4010
Extremely Wet	139	140	310	620	920	1230	1540	1850	2160	2460	2770	3080	3390	3700	4000	4310	4620	4930
Average			150	290	440	590	740	880	1030	1180	1320	1470	1620	1770	1910	2060	2210	2350
Operating AF/day			2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
Diversion Rate (cfs)			1.1	2.2	3.3	4.5	5.6	6.7	7.8	8.9	10.0	11.2	12.3	13.4	14.5	15.6	16.7	17.9

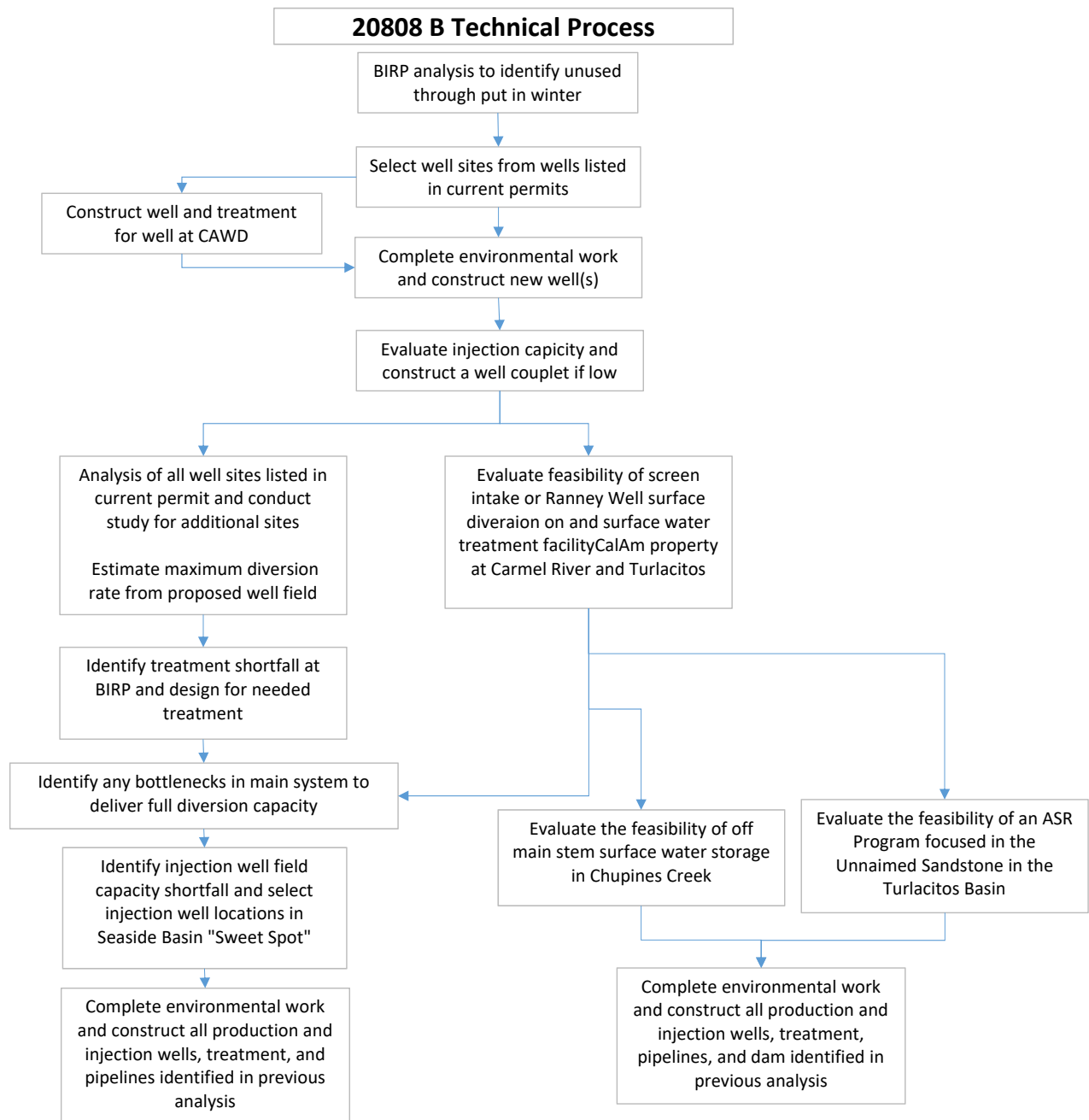
Yield numbers in Acre Feet per year



## EXHIBIT 2-B



## EXHIBIT 2-B



### Diversion from Carmel River Storage in Seaside

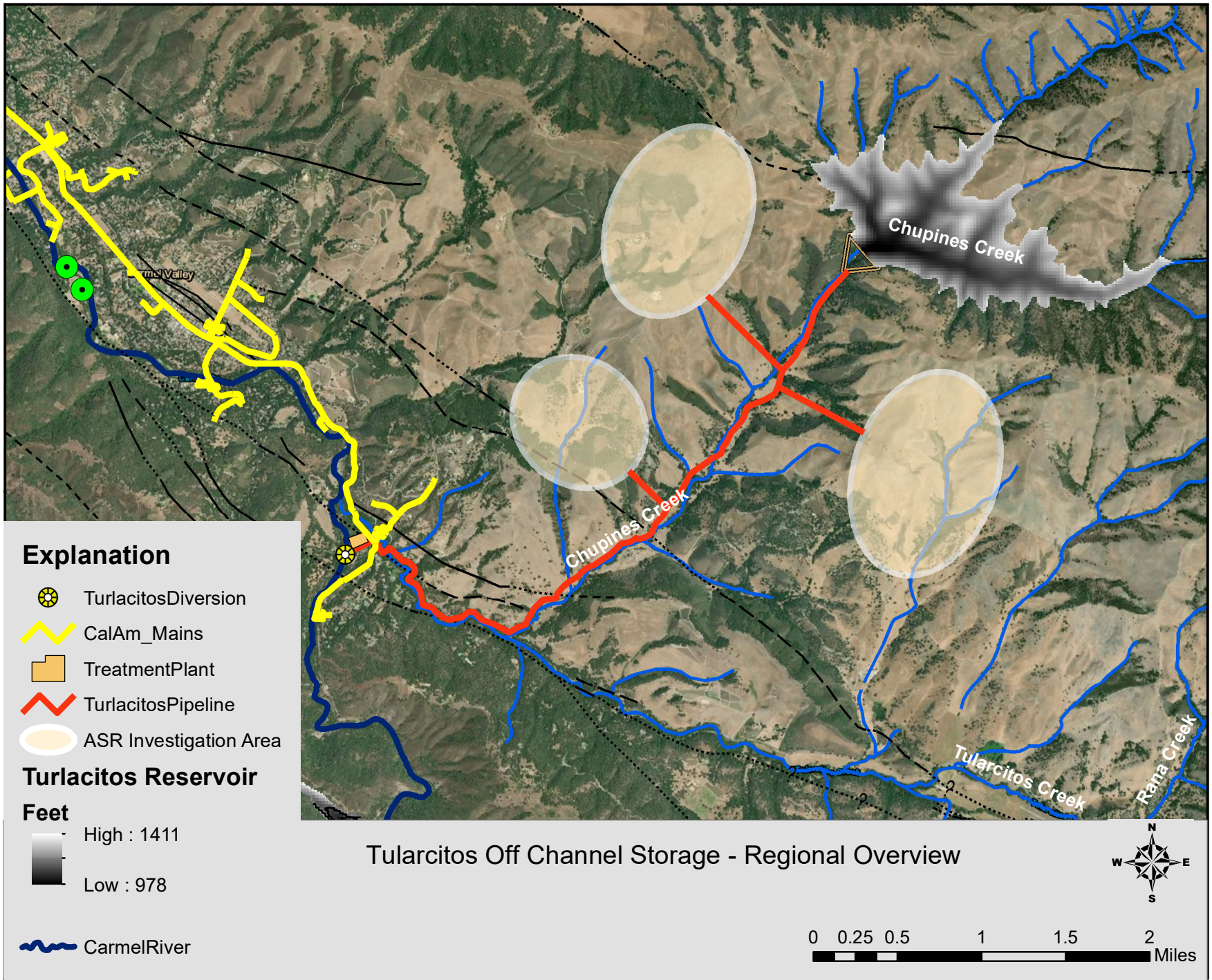
- 1) Expansion of Carmel Valley Well Field
- 2) Increased BIRP treatment capacity, and/or
- 3) Surface water diversion and treatment
- 4) Expansion of Seaside Injection well field
- 5) All connecting piping

### Diversion from Carmel River storage in Turlacitos Basin

- 1) Surface water diversion and treatment
- 2) Construction of Dam
- 3) Installation of injection well field in Turlacitos
- 4) All connecting piping
- 5) Real Property negotiation

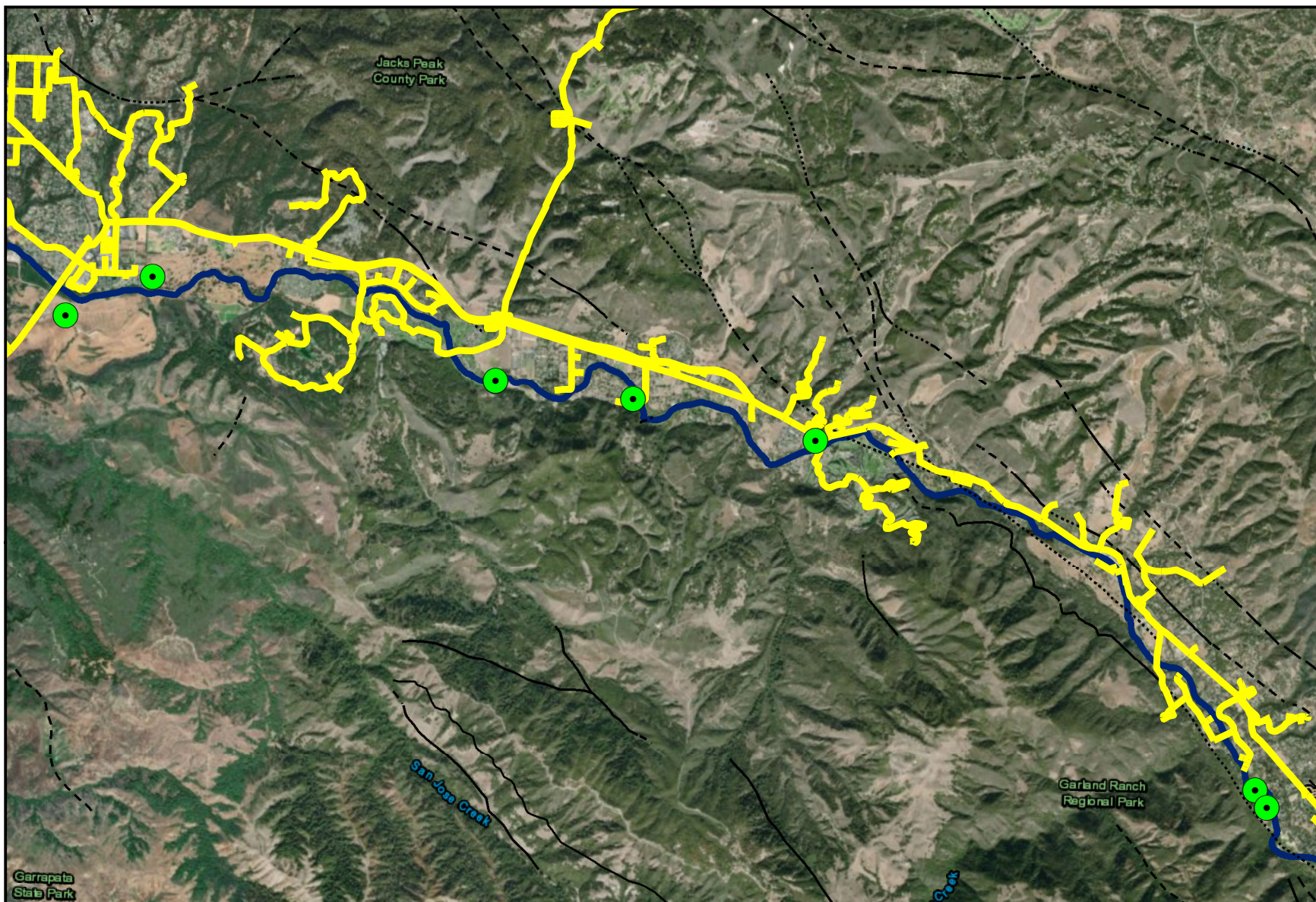


**EXHIBIT 2-B**







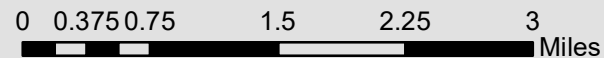
**EXHIBIT 2-B**



**Explanation**

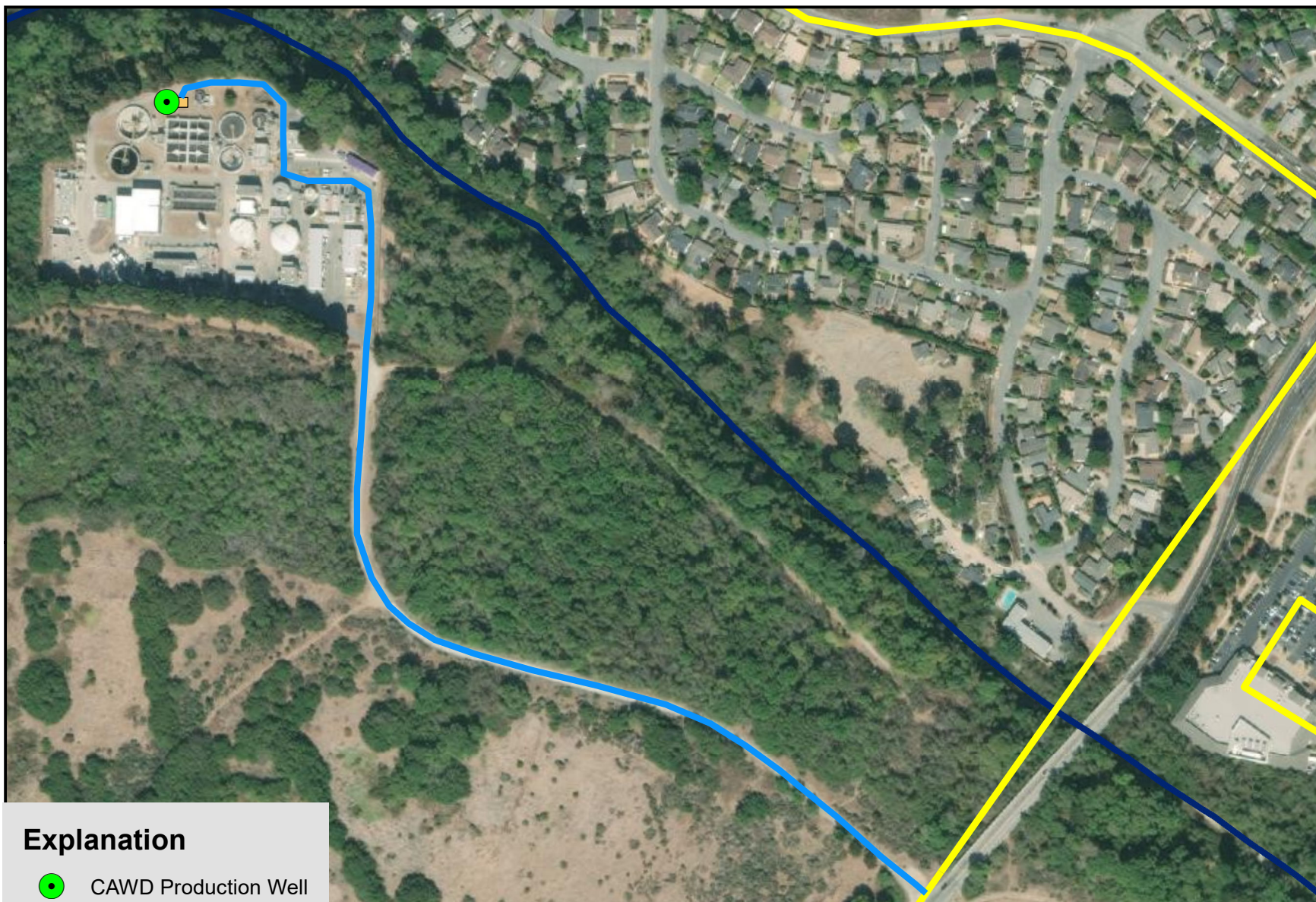
-  NewASRDivWells
-  CalAm\_Mains

Additional Well Sites for ASR Diversion










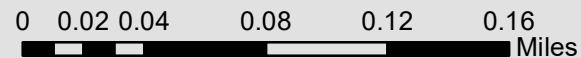
**EXHIBIT 2-B**



**Explanation**

-  CAWD Production Well
-  CAWD Pipe
-  CalAm Mains
-  Carmel River
-  Treatment Plant

CAWD Production Well for Drought Reserve and ASR Capacity









**EXHIBIT 2-B**

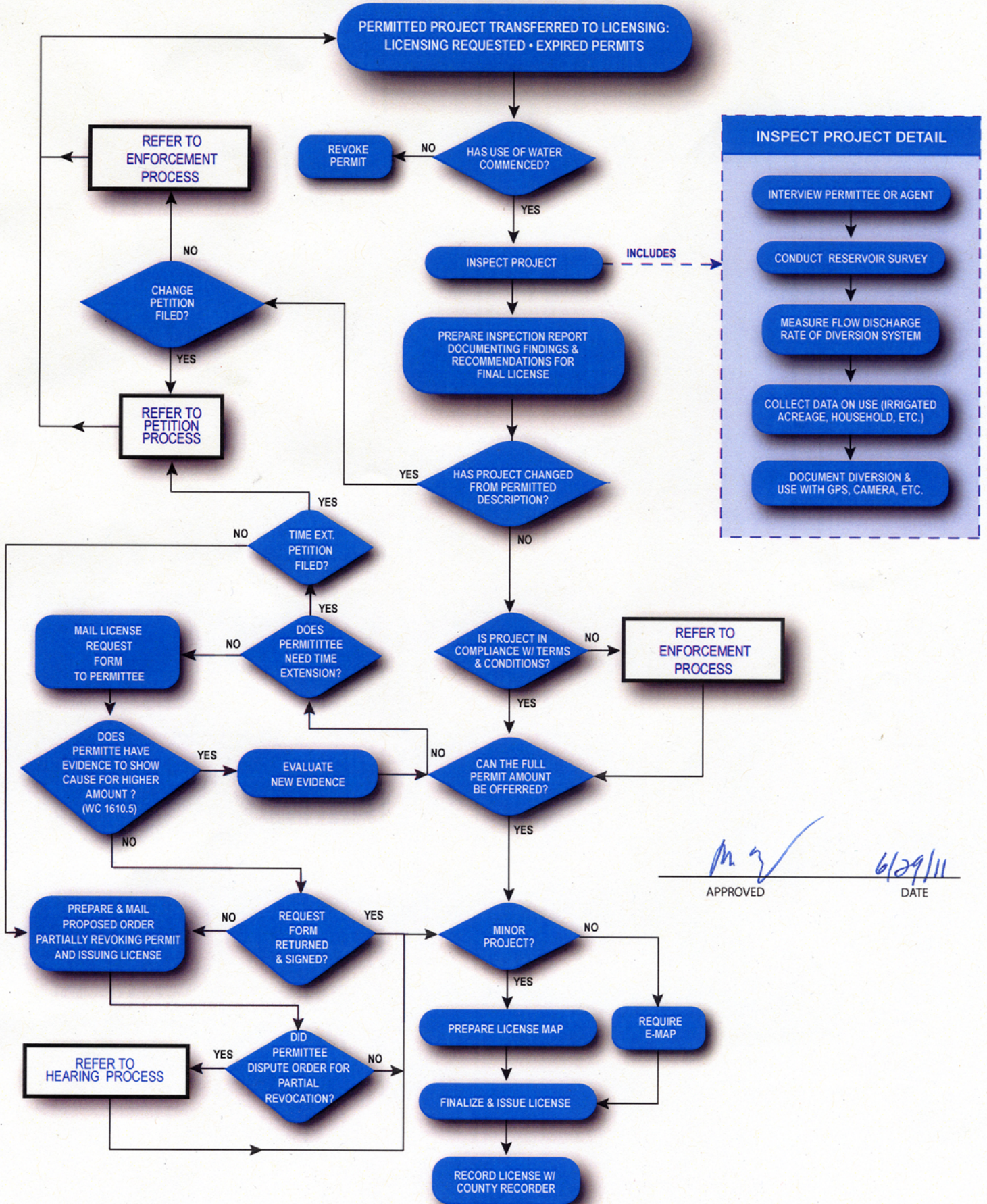


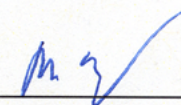
**EXHIBIT 2-B**

SWRCB Regulatory Process  
Flow Charts



# EXHIBIT 2-B LICENSE PROCESS

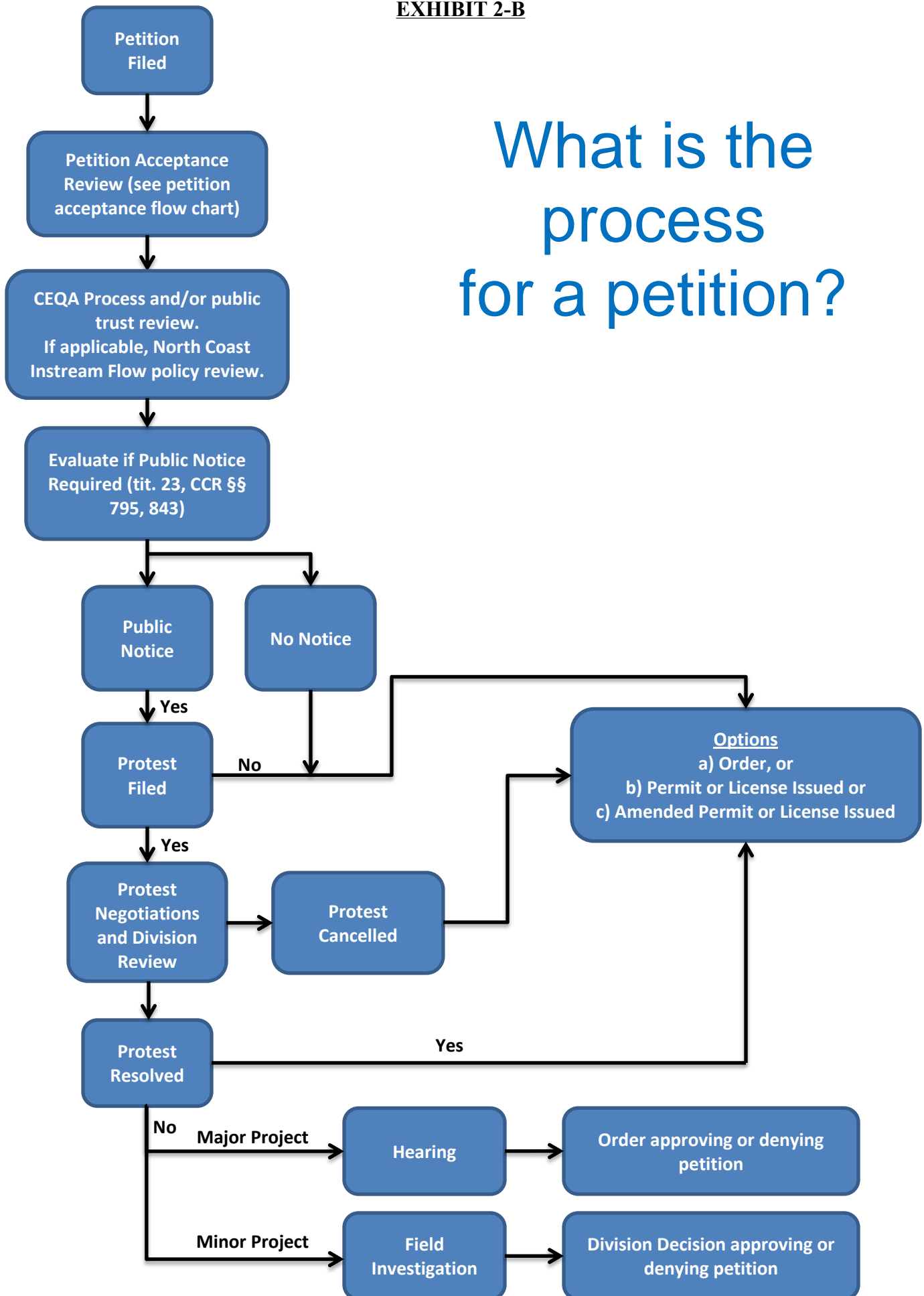


  
 APPROVED 6/29/11  
 DATE

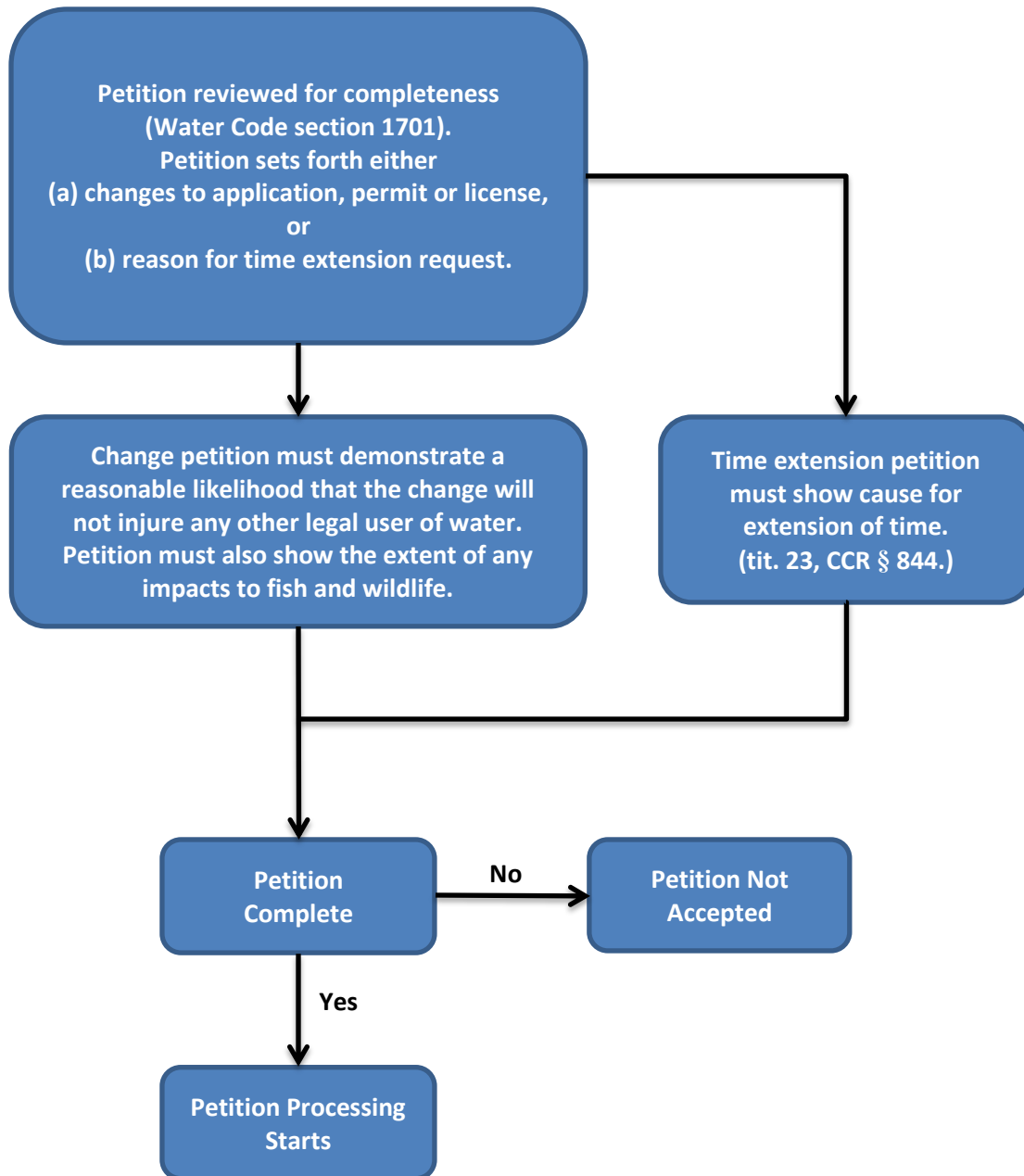


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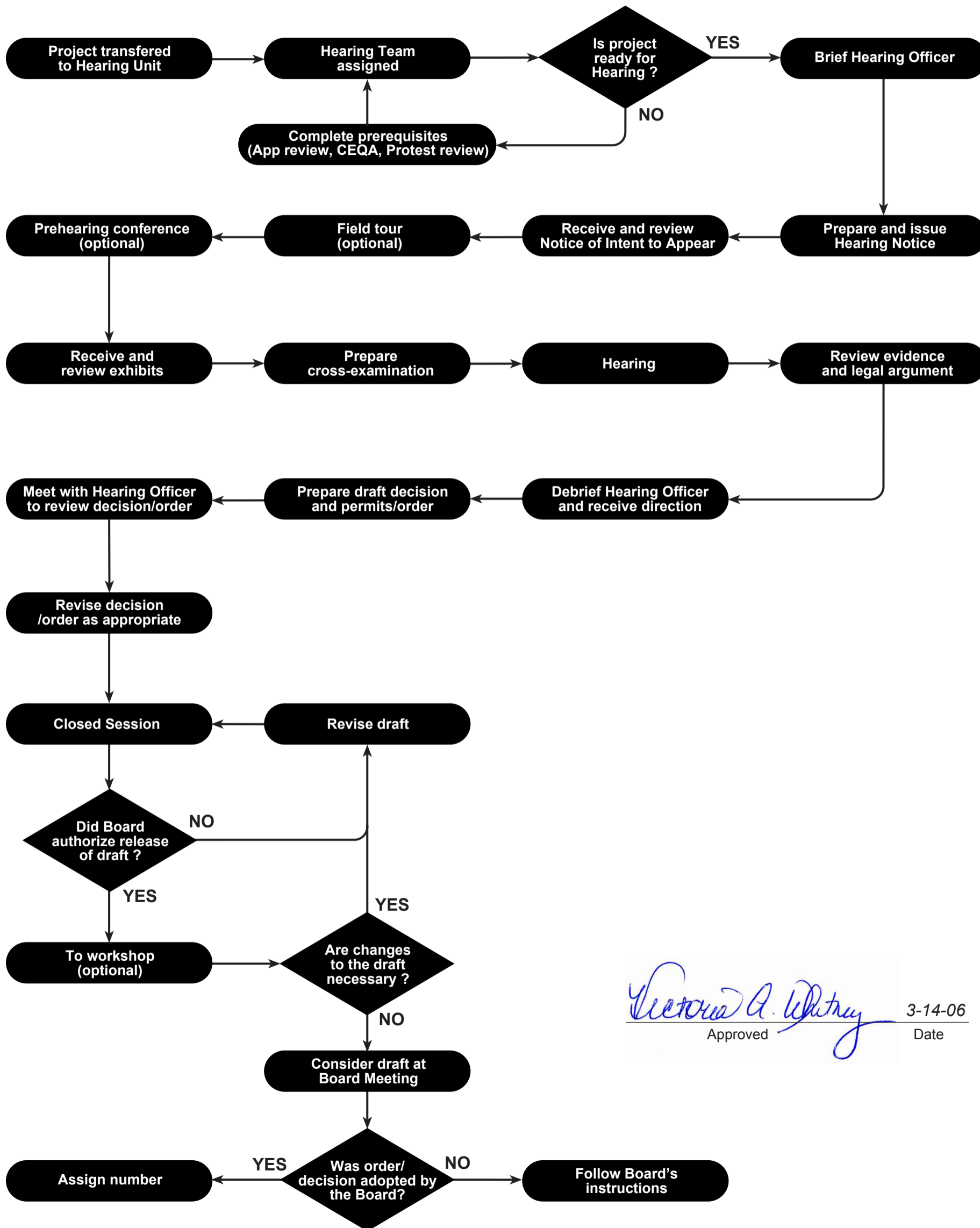
# What is the process for a petition?



# Petition acceptance review process



# Hearing Process



*Victoria A. Whitney* 3-14-06  
 Approved Date



# EXHIBIT 2-B CEQA Process

